



Does Not Comply
Corrected Diskette Needed

OIFE

Error on p. 2

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/087,714

DATE: 03/20/2002

TIME: 16:04:41

Input Set : A:\DMCI0099.ST25.txt

Output Set: N:\CRF3\03202002\J087714.raw

```

3 <110> APPLICANT: Havkin-Frenkel, Daphna
4     Podstolski, Andrzej
5     Dixon, Richard A.
7 <120> TITLE OF INVENTION: Vanillin Biosynthetic Pathway Enzyme From Vanilla Planifolia
9 <130> FILE REFERENCE: DMCI0099
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/087,714
C--> 11 <141> CURRENT FILING DATE: 2002-02-28
11 <150> PRIOR APPLICATION NUMBER: 09/462,576
12 <151> PRIOR FILING DATE: 2000-05-22
14 <150> PRIOR APPLICATION NUMBER: PCT/US98/14895
15 <151> PRIOR FILING DATE: 1998-07-15
17 <150> PRIOR APPLICATION NUMBER: 60/052,604
18 <151> PRIOR FILING DATE: 1997-07-15
20 <150> PRIOR APPLICATION NUMBER: 60/272,415
21 <151> PRIOR FILING DATE: 2001-02-28
23 <160> NUMBER OF SEQ ID NOS: 25
25 <170> SOFTWARE: PatentIn version 3.1
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 1071
29 <212> TYPE: DNA
30 <213> ORGANISM: Vanilla planifolia
32 <400> SEQUENCE: 1
33 atggcagcta agctcctctt ctccctactc ttccctggtct ccgccctctc cgtcgcgctc      60
35 gccggtttcg aagaagacaa tccaatccgg tccgttacac aaaggcctga ctcgattgag      120
37 cctgccatcc tcggcgctcct tggcagttgc cgccacgcct tccacttcgc acggttcgcc      180
39 cgcaggtacg ggaagagcta cggatcggag gaggagatca agaagagggt cgggatcttc      240
41 gtggagaatc tagcgtttat ccggtccact aatcggaagg atctgtcgta taccctagga      300
43 atcaaccaat tcgccgacct gacctgggag gaattccgga ccaatcgctt tggtgccggc      360
45 cagaactgct cggcgactgc gcatggaaac caccggtttg tcgatggcgt gcttcctgta      420
47 acgagggatt ggagggagca agggatagtg agccctgtaa aggaccaagg aagctgtgga      480
49 tcttgctgga ctttcagtag tactggagca ctagaggctg catatacaca gctaactgga      540
51 aagagcacat cattatctga acagcaactt gtggactgtg cctcagcatt caataacttt      600
53 ggatgcaatg gaggtttgcc ttcccaagcc tttgaatacg ttaagtacaa tggaggcatc      660
55 gacacagAAC agacttatcc ataccttggt gtcaatggtg tctgcaactt caagcaggag      720
57 aatgttggtg tcaaggatcat tgattcgata aacatcaccc tgggtgctga ggatgagttg      780
59 aagcatgcag tgggcttggt gcgtccagtt agcgttgcat ttgaggttgt gaaaggtttc      840
61 aatctgtaca agaaagggtg atacagcagt gacacctgtg gaagagatcc aatggatgtg      900
63 aaccaagcag ttcttgccgt cggttatgga gtcgaggacg ggattcctta ttggctcatc      960
65 aagaactcat ggggtacaaa ttggggtgac aatggctact ttaagatgga actcggcaag     1020
67 aacatgtgtg gtgttgcaac ttgcgcattt tatccattg tggctgtgta g             1071
70 <210> SEQ ID NO: 2
71 <211> LENGTH: 352
72 <212> TYPE: PRT

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73 <213> ORGANISM: Vanilla planifolia
75 <400> SEQUENCE: 2
77 Met Ala Ala Lys Leu Leu Phe Phe Leu Leu Phe Leu Val Ser Ala Leu
78 1 5 10 15
81 Ser Val Ala Leu Ala Gly Phe Glu Glu Asp Asn Pro Ile Arg Ser Val
82 20 25 30
85 Thr Gln Arg Pro Asp Ser Ile Glu Pro Ala Ile Leu Gly Val Leu Gly
86 35 40 45
89 Ser Cys Arg His Ala Phe His Phe Ala Arg Phe Ala Arg Arg Tyr Gly
90 50 55 60
93 Lys Ser Tyr Gly Ser Glu Glu Glu Ile Lys Lys Arg Phe Gly Ile Phe
94 65 70 75 80
97 Val Glu Asn Leu Ala Phe Ile Arg Ser Thr Asn Arg Lys Asp Leu Ser
98 85 90 95
101 Tyr Thr Leu Gly Ile Asn Gln Phe Ala Asp Leu Thr Trp Glu Glu Phe
102 100 105 110
105 Arg Thr Asn Arg Leu Gly Ala Ala Gln Asn Cys Ser Ala Thr Ala His
106 115 120 125
109 Gly Asn His Arg Phe Val Asp Gly Val Leu Pro Val Thr Arg Asp Trp
110 130 135 140
113 Arg Glu Gln Gly Ile Val Ser Pro Val Lys Asp Gln Gly Ser Cys Gly
114 145 150 155 160
117 Ser Trp Thr Phe Ser Thr Thr Gly Ala Leu Glu Ala Ala Tyr Thr Gln
118 165 170 175
121 Leu Thr Gly Ser Thr Leu Ser Glu Gln Gln Leu Val Asp Cys Ala Ser
122 180 185 190
125 Ala Phe Asn Asn Phe Gly Cys Gly Gly Leu Pro Ser Gln Ala Phe Glu
126 195 200 205
129 Tyr Val Lys Tyr Asn Gly Gly Ile Asp Thr Glu Gln Thr Tyr Pro Tyr
130 210 215 220
133 Leu Gly Val Met Gly Ile Cys Asn Phe Lys Gln Glu Asn Val Gly Val
134 225 230 235 240
137 Lys Val Ile Asp Ser Ile Asn Ile Thr Leu Gly Ala Glu Asp Glu Leu
138 245 250 255
141 Lys His Ala Val Gly Leu Val Arg Pro Val Ser Val Ala Phe Glu Val
142 260 265 270
145 Val Lys Gly Phe Asn Leu Tyr Lys Lys Gly Val Tyr Ser Ser Asp Thr
146 275 280 285
149 Cys Gly Arg Asp Pro Met Asp Val Asn His Ala Val Leu Ala Val Gly
150 290 295 300
153 Tyr Gly Val Glu Asp Gly Ile Pro Tyr Trp Leu Ile Lys Asn Ser Trp
154 305 310 315 320
157 Gly Thr Asn Trp Gly Asp Asn Gly Tyr Phe Lys Met Glu Leu Gly Lys
158 325 330 335
161 Asn Met Cys Gly Val Ala Thr Cys Ala Ser Tyr Pro Ile Val Ala Val
162 340 345 350

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165 <210> SEQ ID NO: 3<211> 7<212> PRT<213> Artificial Sequence<220><223> Novel Sequence

W--> 167 <211> LENGTH:

W--> 167 <212> TYPE:

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Input Set : A:\DMCI0099.ST25.txt

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W--> 167 <213> ORGANISM:
167 <400> SEQUENCE: 3
169 Gly Val Leu Pro Val Thr Arg
170 1 5
173 <210> SEQ ID NO: 4
174 <211> LENGTH: 13
175 <212> TYPE: PRT
176 <213> ORGANISM: Artificial Sequence
178 <220> FEATURE:
179 <223> OTHER INFORMATION: Novel Sequence
181 <400> SEQUENCE: 4
183 Asn Ser Trp Gly Thr Asn Trp Gly Asp Asn Gly Tyr Phe
184 1 5 10
187 <210> SEQ ID NO: 5
188 <211> LENGTH: 6
189 <212> TYPE: PRT
190 <213> ORGANISM: Artificial Sequence
192 <220> FEATURE:
193 <223> OTHER INFORMATION: Novel Sequence
195 <400> SEQUENCE: 5
197 Gly Phe Asn Leu Tyr Lys
198 1 5
201 <210> SEQ ID NO: 6
202 <211> LENGTH: 8
203 <212> TYPE: PRT
204 <213> ORGANISM: Artificial Sequence
206 <220> FEATURE:
207 <223> OTHER INFORMATION: Novel Sequence
209 <400> SEQUENCE: 6
211 Gln Gly Ile Val Ser Pro Val Lys
212 1 5
215 <210> SEQ ID NO: 7
216 <211> LENGTH: 20
217 <212> TYPE: DNA
218 <213> ORGANISM: Artificial Sequence
220 <220> FEATURE:
222 <223> OTHER INFORMATION: Primer 1a 5
224 <220> FEATURE:
225 <221> NAME/KEY: misc_feature
226 <222> LOCATION: (3)..(3)
227 <223> OTHER INFORMATION: N= Inosine
229 <220> FEATURE:
230 <221> NAME/KEY: misc_feature
231 <222> LOCATION: (6)..(6)
232 <223> OTHER INFORMATION: N= Inosine
234 <220> FEATURE:
235 <221> NAME/KEY: misc_feature
236 <222> LOCATION: (9)..(9)
237 <223> OTHER INFORMATION: N= Inosine

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Input Set : A:\DMCI0099.ST25.txt

Output Set: N:\CRF3\03202002\J087714.raw

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240 <221> NAME/KEY: misc_feature
241 <222> LOCATION: (12)..(12)
242 <223> OTHER INFORMATION: N= Inosine
244 <220> FEATURE:
245 <221> NAME/KEY: misc_feature
246 <222> LOCATION: (15)..(15)
247 <223> OTHER INFORMATION: N= I
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <222> LOCATION: (18)..(18)
252 <223> OTHER INFORMATION: N= I
254 <400> SEQUENCE: 7
W--> 255 ggngtncctnc cngtnacncg 20
258 <210> SEQ ID NO: 8
259 <211> LENGTH: 20
260 <212> TYPE: DNA
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
265 <223> OTHER INFORMATION: Primer 1a 5
267 <220> FEATURE:
268 <221> NAME/KEY: misc_feature
269 <222> LOCATION: (3)..(3)
270 <223> OTHER INFORMATION: N= Inosine
272 <220> FEATURE:
273 <221> NAME/KEY: misc_feature
274 <222> LOCATION: (6)..(6)
275 <223> OTHER INFORMATION: N= Inosine
277 <220> FEATURE:
278 <221> NAME/KEY: misc_feature
279 <222> LOCATION: (9)..(9)
280 <223> OTHER INFORMATION: N= Inosine
282 <220> FEATURE:
283 <221> NAME/KEY: misc_feature
284 <222> LOCATION: (12)..(12)
285 <223> OTHER INFORMATION: N= Inosine
287 <220> FEATURE:
288 <221> NAME/KEY: misc_feature
289 <222> LOCATION: (15)..(15)
290 <223> OTHER INFORMATION: N= Inosine
292 <220> FEATURE:
293 <221> NAME/KEY: misc_feature
294 <222> LOCATION: (18)..(18)
295 <223> OTHER INFORMATION: N= Inosine
297 <400> SEQUENCE: 8
W--> 298 cngtnacng gnagnacncc 20
301 <210> SEQ ID NO: 9
302 <211> LENGTH: 41
303 <212> TYPE: DNA
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Input Set : A:\DMCI0099.ST25.txt

Output Set: N:\CRF3\03202002\J087714.raw

304 <213> ORGANISM: Artificial Sequence
 306 <220> FEATURE:
 308 <223> OTHER INFORMATION: Primer 2a 5
 310 <220> FEATURE:
 311 <221> NAME/KEY: misc_feature
 312 <222> LOCATION: (3)..(3)
 313 <223> OTHER INFORMATION: N= t or c
 315 <220> FEATURE:
 316 <221> NAME/KEY: misc_feature
 317 <222> LOCATION: (6)..(6)
 318 <223> OTHER INFORMATION: N= Inosine
 320 <220> FEATURE:
 321 <221> NAME/KEY: misc_feature
 322 <222> LOCATION: (12)..(12)
 323 <223> OTHER INFORMATION: N= Inosine
 325 <220> FEATURE:
 326 <221> NAME/KEY: misc_feature
 327 <222> LOCATION: (15)..(15)
 328 <223> OTHER INFORMATION: N= Inosine
 330 <220> FEATURE:
 331 <221> NAME/KEY: misc_feature
 332 <222> LOCATION: (18)..(18)
 333 <223> OTHER INFORMATION: N= t or c
 335 <220> FEATURE:
 336 <221> NAME/KEY: misc_feature
 337 <222> LOCATION: (24)..(24)
 338 <223> OTHER INFORMATION: N= Inosine
 340 <220> FEATURE:
 341 <221> NAME/KEY: misc_feature
 342 <222> LOCATION: (27)..(27)
 343 <223> OTHER INFORMATION: N= t or c
 345 <220> FEATURE:
 346 <221> NAME/KEY: misc_feature
 347 <222> LOCATION: (30)..(30)
 348 <223> OTHER INFORMATION: N= t or c
 350 <220> FEATURE:
 351 <221> NAME/KEY: misc_feature
 352 <222> LOCATION: (33)..(33)
 353 <223> OTHER INFORMATION: N= Inosine
 355 <220> FEATURE:
 356 <221> NAME/KEY: misc_feature
 357 <222> LOCATION: (36)..(36)
 358 <223> OTHER INFORMATION: N= t or c
 360 <220> FEATURE:
 361 <221> NAME/KEY: misc_feature
 362 <222> LOCATION: (39)..(39)
 363 <223> OTHER INFORMATION: N= t or c
 365 <400> SEQUENCE: 9

W--> 366 aantcntggg gnacnaantg gggnganaan ggntanttna a

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VERIFICATION SUMMARY

DATE: 03/20/2002

PATENT APPLICATION: US/10/087,714

TIME: 16:04:42

Input Set : A:\DMCI0099.ST25.txt

Output Set: N:\CRF3\03202002\J087714.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:167 M:282 W: Numeric Field Identifier Missing, <211> is required.
L:167 M:282 W: Numeric Field Identifier Missing, <212> is required.
L:167 M:282 W: Numeric Field Identifier Missing, <213> is required.
L:255 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:520 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12